reallocating digital bandwidth and spectrum allocation automatically. This is implemented by the automatic spectrum allocation function and the digital multiplexing functions under firmware and software control and is facilitated by a close loop feedback control algorithms."

The following modification is intended to comply with Examiner's objection to the disclosure's failure to meet the 25 lines/250 words/1 page requirement.

In the Claims

For purposes of this continuation application, please cancel all claims in the prior patent application.

AU 7/16/05

Please add the following claims:

1-23. (cancelled)

24 A head end network system, comprising:

a head end configured to process a plurality of digital data;

a composite wideband RF channel configured to communicate a head end output to a plurality of set-top boxes, said composite wideband channel including,

a plurality of analog channels,

a plurality of modulated digital channels within each of said plurality of analog channels;

a plurality of head end encoders housed within said head end,

each of said plurality of head end encoders configured to receive said plurality of digital data having a first protocol and convert said plurality of digital data to a second protocol;

each of said plurality of head end encoders configured to generate said plurality of modulated digital channels with said plurality of digital data having said second protocol;

each of said plurality of head end encoders having an encoder output which occupies one of said plurality of analog channels; and

a signal combiner operatively coupled to each of said plurality of head end encoders, said signal combiner configured to stack each said encoder output to generate said composite wideband signal.

24
25. The head end network system of claim 1 wherein said first protocol is an Internet Protocol.

24
26. The head end network system of claim 1 wherein said first protocol is an Ethernet Protocol

26
27. The head end network system of claim 3 wherein said second protocol is a MPEG protocol.

24
28. The head end network system of claim 1 further comprising a return path demodulator which receives upstream information from said plurality of set-top boxes.

28
29. The head end network system of claim 8 further comprising a content title server operatively coupled to said return path demodulator, said content title server configured to provide orientation for content selected by one of said plurality of set top boxes.

29
30. The head end network system of claim 6 further comprising a plurality of content servers in communication with said content title server, said content servers having a plurality of video content formatted as said plurality of digital data.

24
31. The head end network system of claim 1 wherein said plurality of digital data comprises digital video.

31

9. 32 The head end network system of claim 8 wherein said plurality of digital data comprises Internet data.

32

10. 33 The head end network system of claim 9 wherein said plurality of digital data comprises telephony data.

34

11. A head end network system, comprising:

a head end configured to process a plurality of digital data;

a composite wideband RF channel configured to communicate a head end output to a plurality of set-top boxes, said composite wideband channel including,

a plurality of analog channels,

a plurality of modulated digital channels within each of said plurality of analog channels;

a plurality of head end encoders housed within said head end,

each of said plurality of head end encoders configured to receive said plurality of digital data having a first protocol and convert said plurality of digital data to a second protocol;

each of said plurality of head end encoders configured to generate said plurality of modulated digital channels with said plurality of digital data having said second protocol;

each of said plurality of head end encoders having an encoder output which occupies one of said plurality of analog channels;

a signal combiner operatively coupled to each of said plurality of head end encoders, said signal combiner configured to stack each said encoder output to generate said composite wideband signal;

a return path demodulator which receives upstream information from said plurality of set-top boxes; and

a content title server operatively coupled to said return path demodulator, said content title server configured to provide orientation for content selected by one of said plurality of set top boxes.

35 34
12. The head end network system of claim 11 further comprising a plurality of content servers in communication with said content title server, said content servers having a plurality of video content formatted as said plurality of digital data.

36 34
13. The head end network system of claim 11 wherein said plurality of digital data comprises digital video.

37 36
14. The head end network system of claim 13 wherein said plurality of digital data comprises Internet data.

38 37
15. The head end network system of claim 14 wherein said plurality of digital data comprises telephony data.

39 38
16. The head end network system of claim 15 wherein said first protocol is an Internet Protocol.

40 38
17. The head end network system of claim 15 wherein said first protocol is an Ethernet Protocol

41 40
18. The head end network system of claim 17 wherein said second protocol is a MPEG protocol.

42
19. A head end network system, comprising:

a head end configured to process a plurality of digital data;

a composite wideband RF channel configured to communicate a head end output to a plurality of set-top boxes, said composite wideband channel including,

a plurality of analog channels,

a plurality of modulated digital channels within each of said plurality of analog channels;

a plurality of head end encoders housed within said head end,

each of said plurality of head end encoders configured to receive said plurality of digital data having an Internet protocol and convert said plurality of digital data to a MPEG protocol;

each of said plurality of head end encoders configured to generate said plurality of modulated digital channels with said plurality of digital data having said MPEG protocol;

each of said plurality of head end encoders having an encoder output which occupies one of said plurality of analog channels;

a signal combiner operatively coupled to each of said plurality of head end encoders, said signal combiner configured to stack each said encoder output to generate said composite wideband signal;

a return path demodulator which receives upstream information from said plurality of set-top boxes; and

a content title server operatively coupled to said return path demodulator, said content title server configured to provide orientation for content selected by one of said plurality of set top boxes.

43 42
20. The head end network system of claim 19 further comprising a plurality of content servers in communication with said content title server, said content servers having a plurality of video content formatted as said plurality of digital data.

44 42
21. The head end network system of claim 19 wherein said plurality of digital data comprises digital video.

45 44
22. The head end network system of claim 21 wherein said plurality of digital data comprises Internet data.

46 45
23. The head end network system of claim 22 wherein said plurality of digital data comprises telephony data.

REMARKS

I. New Claims

Support for the new independent claim 1, 11, and 19 and their related dependent claims is provided in discussions and references to Figure 3 on page 8, line 35 through page 11, line 24 and references to Figure 5 on page 13, line 12 through line 36 and the remainder of the patent application. The Examiner shall appreciate that the patent application should be reviewed in its entirety. However, the Examiner's attention is drawn to Figure 3 which provides a block diagram which supports the new claims. Figure 5 describes how bandwidth is allocated using the invention described in this application.

Additionally, the Examiner's attention is called to page 9, line 26 through page 10, line 1 which states:

> The series of encoders 51, 52, 53, ..., 58 each converts Ethernet data with internet protocol coming a respective content into an MPEG-2 bit-stream within a specified radio frequency bandwidth. Each encoder has a single radio frequency (RF) output line connected to the signal combiner 89 which stack the encoder output signals to form a single composite wideband signal which has been modulated by a group of quadrature amplitude data modulators resident in each encoder 91 also